

### Remarks

Claims 1, 2, 4, 7, 11, 15, 16 and 20 have been amended with the details set forth in Attachment I (Version with Markings to Show Changes Made). Claims 17 and 18 have been cancelled, and new claims 21-23 have been added. It is noted that the final rejection has been withdrawn.

### Allowable Subject Matter

It is noted that the subject matter of Claims 4, 7-14 and 18 has been indicated as still being allowable, with the allowance of Claims 6, 19 and 20 withdrawn in view of newly cited prior art.

### The 35 USC 102 Rejections

The rejections of Claims 1-3, 5 and 15 under 35 USC 102(e) as anticipated by Suemura et al, of Claims 16 and 17 under 35 USC 102(b) as anticipated by McMahon, and of Claims 6, 19 and 20 under 35 USC 102(e) as anticipated by Fukushima, are believed to be overcome by the amendments to the claims wherein the allowable subject matter of Claims 7 and 18 has been incorporated into parent Claims 1 and 16, with allowable Claims 4, 7 and 11 presented in independent form. Thus, these rejections should be withdrawn.

Conclusion

In view of the amendments to the claims, it is believed that each ground of rejection has been overcome. Thus, this application is in condition for allowance based on Claims 1-4, 6-16, and 20, along with new Claims 21-23.

Respectfully submitted,

Dated: 7-3-02

L.E. Carnahan  
L.E. Carnahan  
Agent for Applicant  
Registration No. 20,555  
Tel. No. (925) 422-5024

Enclosure:  
Attachment I

Attachment I  
S.N. 09/609,178  
Version with Markings to Show Changes Made

Claims 1, 2, 4, 7, 11, 15, 16 and 20, amend to read as follows:

1. (Twice Amended) In a wavelength router for fiber optical networking and computer interconnects, the improvement comprising:

at least one diffraction grating which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any number, [and]

a second diffraction grating positioned to receive outputs from said first mentioned diffraction grating[.],

[The improvement of 6, additionally including] a collection optic assembly positioned to receive outputs from said second diffraction grating, and a plurality of filter modules positioned to receive outputs from said collection optic assembly.

2. (Twice Amended) The improvement of Claim 7[1], wherein said diffraction grating is augmented by elements selected from the group consisting of coupler and wavelength selective elements to provide fully non-blocking interconnection.

Claim 4, amend to read as follows:

4. (Twice Amended) In a wavelength router for fiber optical networking and computer interconnects, the improvement comprising:

at least one diffraction grating which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any number,

said at least one diffraction grating being augmented by [The improvement of Claim 3, wherein said coupler comprises a] a wavelength-selective coupler which comprises an optical wavelength add-drop multiplexer.

Claim 7, amend to read as follows:

7. (Twice Amended) In a wavelength router for fiber optical networking and computer interconnects, the improvement comprising:

at least one diffracting grating which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any number,

[The improvement of 6, additionally including] a collection optic assembly positioned to receive outputs from [said second] another diffraction grating, and a plurality of filter modules positioned to receive outputs from said collection optic assembly.

Claim 11, amend to read as follows:

11. (Twice Amended) In a wavelength router for fiber optical networking and computer interconnects, the improvement comprising:

at least one diffraction grating which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any number,

a second diffraction grating positioned to receive outputs from said first mentioned diffraction grating,

[The improvement of Claim 5, additionally including] at least one collection and re-direction optic assembly position to direct inputs to said first-mentioned diffraction grating, and a retro-reflector assembly position to receive

outputs from said second diffraction grating and reflect certain of said outputs back through said diffraction grating.

Claim 15, amend to read as follows:

15. (Amended) The improvement of Claim 4[1], additionally including at least one coupler for combining outputs from said at least one diffraction grating.

Claim 16, amend to read as follows:

16. (Twice Amended) A wavelength-conserving grating router for intermediate wavelength density, including:

at least one diffraction grating for receiving a number of inputs and for discharging a greater number of outputs, and

means [including a second diffraction grating] for combining at least a portion of said outputs[.].

said means for combining at least a portion of said outputs being selected from directional couplers and wavelength-selective couplers,

said wavelength-selective couplers including optical wavelength add-drop multiplexers.

Claim 20, amend to read as follows:

20. (Twice Amended) The grating router of Claim 23[16], additionally including assemblies operatively connected to said diffraction gratings selected from the group consisting of collection and re-direction optic and retro-reflector assemblies, and collection optics and filter module assemblies.

Claims 21-23 have been added.

Claims 17 and 18 have been cancelled.

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Robert J. Deri et al	Docket No. :	IL-10504
Serial No. :	09/609,178	Art Unit :	2874
Filed :	June 30, 2000	Examiner	K. Wood
For :	Wavelength-Conserving Grating Router For Intermediate Wavelength Density		

## FEE AUTHORIZATION FOR AMENDMENTS WITH ADDITIONAL CLAIMS

Commissioner for Patents  
Washington, DC 20231

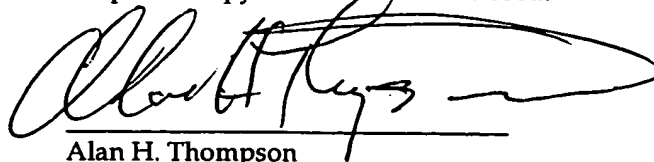
Sir:

- Transmitted herewith is an amendment in the above-identified case in response to the Office Action dated 4/23/2002.
- The filing fee for this amendment is calculated below:

CLAIMS AS AMENDED

			SMALL ENTITY		LARGE ENTITY	
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NO. PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDIT. FEE	RATE	ADDIT. FEE
TOTAL <u>19</u>	MINUS <u>20</u>	= <u>0</u>	\$9	\$ <u>   </u>	\$18	\$ <u>   </u>
INDEPENDENT CLAIMS						
TOTAL <u>5</u>	MINUS <u>3</u>	= <u>2</u>	\$42	\$ <u>84</u>	\$84	\$ <u>   </u>
TOTAL FEES			\$ <u>84</u>			

- The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Deposit Account 12-0695. A duplicate copy of this sheet is enclosed.



Alan H. Thompson  
Laboratory Counsel  
Registration No.: 29,981  
Tel No. (925) 422-7820

Date 7-3-02